3.10 TRAFFIC AND TRANSPORTATION

3.10.1 Applicable Sections in FERC Documents

Please refer to Section 3.93 of the FERC Final EIS and Resource Report 5, Socioeconomics, in Exhibit F-1 of GSX-US's original application to FERC.

3.10.2 Issue 36: Analysis of Traffic Impacts~~1~~

Issue Summary

Description of Problem

The Final EIS does not contain any meaningful analysis of traffic impacts. Potential traffic impacts associated with roads and railroad crossings have not been included. Without information about traffic and train volumes that would be affected by the pipeline crossing, potential traffic impacts cannot be discussed. Additionally, local transportation plans, programs, and capital projects are not mentioned. No estimate is provided of the number of trips or the distribution/assignment of vehicle trips to the transportation network, nor is a cumulative impact analysis provided.

Ecology Requirement

Include a thorough discussion of auto and train traffic impacts associated with construction and operation of the project in the environmental review.

Affected Environment

Existing Road Network

The local highway system near the proposed route through Whatcom County is well developed. The principal roadway in the county, I-5, links Bellingham with British Columbia to the north and Seattle and the Puget Sound area to the south. SRs 9, 539, 542, 544, and 548 traverse the rest of Whatcom County. Most public roads near the proposed route are paved. However, none of the roads has curbs, gutters, or sidewalks.

SR 548 was recently improved from I-5 to Blaine Road through the addition of a pavement overlay and improved pavement markings and traffic signs. The roadway has 11-foot-wide lanes, 8-foot-wide paved shoulders, drainage ditches, and wire fences on both sides. The posted speed limit is 50 mph.

In addition to state routes, other public roads in the pipeline vicinity are county roads such as Grandview Road, which is west of Blaine Road. The county roads in the area are principally two-lane rural roads. The speed limits are generally 50 mph, except in more developed areas such as the Birch Bay area, and near Blaine, Ferndale, and the I-5 interchanges, where the speed limits are 35 mph.

Impacts

GSX-US

Construction

Table 3-3 lists the anticipated workforce, schedule, and construction duration for the major components of the GSX-US project construction.

Table 3-3: Estimated Construction Workforce for the GSX Project

Facility	Size of Workforce	Schedule		Duration (days)
		Start	End	
Pipeline Facilities Onshore	225 to 300	August 2004	October 2005	306 (includes winter break approx. Oct 2004 – Apr 2005)
Cherry Point Compressor Station	80 to 100	March 2005	October 2005	155
Sumas Interconnect Facility	20 to 30	May 2005	October 2005	111
Total	325 to 430			

Source: Williams Gas Pipeline Company 2003

Construction Workforce: Temporary impacts on traffic during project construction could result from the daily commuting of the construction workforce to the construction site. GSX-US estimates that approximately 100 people would be working on the onshore pipeline at any one time. The majority of these individuals would travel to the Portal Way Staging Area from various locations early in the morning and return in the evening during non-peak traffic hours. Table 3-4 shows the anticipated routes construction workers would take to reach the Portal Way Staging Area from various locations in the region (Williams Gas Pipeline Company 2003).

Road Crossings: Construction at road crossings could also affect traffic. Road crossings are installed using either a boring technique or an open cut. Major paved roads generally would be crossed by boring or drilling underneath the road. Little or no disruption of traffic would result at road crossings that are bored or drilled. The open-cut construction method would be used across lightly traveled paved or graveled roads and unimproved rural dirt roads. GSX-US will attempt to maintain at least one lane of traffic with detours around construction, plating over the open portion of the trench, or other suitable methods when open cutting a road. However, in a worst-case scenario, this construction method may require the road to be closed for about 24 hours. Traffic control measures such as flaggers, warning signs, lights, and barriers would be used during construction to ensure safety and to minimize traffic congestion.

GSX-US would use existing roads to provide access to the construction right-of-way. In most cases, the existing roads are paved or graveled and would not require improvement for access. In some cases, narrow roads or two-track roads would be improved to provide suitable access for construction. GSX-US has identified 27 roads that, if modified, would result in approximately 8.8 acres of disturbance. Table 3-5 lists the name and general location of proposed road crossings and identifies the type of improvements that would be required at each road.

Table 3-4: Anticipated Construction Worker Travel Routes

Destination	Worker Origin					
	Bellingham	Birch Bay	Blaine	Ferndale	Lynden	Sumas
Portal Way Staging area	North on I-5 to exit 270, north on Portal Way	East on Birch Bay – Lynden Road; north on Portal Way	South on Portal Way	North on Portal Way or I-5 to exit 270, north on Portal Way	West on Birch Bay – Lynden Road; north on Portal Way	Highway 9 to 546 to 539; west on Birch Bay – Lynden Road; north on Portal Way
Gulf Road Staging area[1]	North on I-5 to exit 262, west on Mt. View, Rainbow and Henry Roads to Gulf Road	South on Blaine Road, east on Grandview, south on Kickerville, west on Henry	South on Blaine Road, east on Grandview, south on Kickerville, west on Henry	West on Mt. View, Rainbow and Henry Roads to Gulf Road	West on Lynden – Birch Bay, south on Kickerville, west on Henry Road	Highway 9 to 546 to 539, west on Lynden – Birch Bay, south on Kickerville, west on Henry Road
Sumas Staging area	Highway 539 to 546 to 9	East on Lynden – Birch Bay to 539 to 546 to 9	South on 548, Portal Way or I-5 to Birch Bay route	West Axton to 539 to 546 to 9	East on 546 to 9	Rock Road, Highway 9 and local roads
Ferndale Staging area	North on I-15 to exit 263, south on Portal Way	East on Lynden – Birch Bay to I-5 or Portal Way, south to Ferndale	South on I-5 or Portal Way to Ferndale	Local roads	South on 539, west on West Axton	Highway 9 to 546 to 539, west on West Axton
Port of Bellingham	city roads	South on I-5 to city roads	South on I-5 to city roads	South on I-5 to city roads	South on 539 to city roads	South on 9 to 546 to 539 to city roads

Source: Williams Gas Pipeline Company 2003

Table 3-5: Major Roads Crossed by the GSX Project and Proposed Crossing Method

Milepost	Road/Railroad Name	Proposed Crossing Method
0.01	Jones Road	Open Cut
0.67	Rock Road	Open Cut
1.54	Hillview Road	Open Cut
1.71	Reese Hill Road	HDD (with Saar Creek)
2.42	Sumas Road	Open Cut
2.90	Morgan Road	Open Cut
2.92	Hovel Road	Open Cut
4.41	Garrison Road	Bore
5.42	High School Road	Open Cut
6.49	Van Buren Road	Bore
7.58	Trapline Road	Open Cut
9.64	Clay Road	Open Cut
10.20	Northwood Road	Open Cut
10.96	Bloom Road	Open Cut
11.86	Bender Road	Open Cut
12.37	Depot Road	Open Cut
12.88	Benson Road	Open Cut
13.38	Double Ditch Road	Bore
13.89	Guide Meridian Road	Bore
14.66	Jackman Road	Open Cut
15.18	Axling Road	Open Cut
15.96	Weidkamp Road	Open Cut
16.97	Markworth Road	Open Cut
18.99	West Badger Road	Bore
19.77	Sunrise Road	Open Cut
21.00	Loomis Trail Road	Open Cut
21.70	Delta Line Road	Open Cut
22.24	Stein Road	Open Cut
22.81	Custer School Road	Open Cut
24.06	Valley View Road	Open Cut
24.62	Interstate 5	HDD
24.79	Portal Way	Bore (with railroad on west side)
25.16	Birch Bay Lynden Road	Bore
26.26	Arnie Road	Open Cut
26.83	Ham Road	Open Cut
28.13	Kickerville Road	Open Cut
28.48	Bay Road	Open Cut
30.28	Blaine Road	Bore
31.02	Safsten Road	Open Cut
31.30	Jackson and Grandview Roads	Bore
31.82	Brown Road	Open Cut
32.51	Aldergrove Road	Open Cut

Source: Williams Gas Pipeline Company 2003

Construction Vehicle Traffic: The existing roadway system in the project area could be temporarily affected by the movement of construction vehicles and delivery of construction equipment and materials to pipeline site. GSX-US consulted with the Whatcom County Traffic Engineer to identify areas where construction traffic impacts could occur. The intersection of

Morgan, Hovel, and Telegraph roads was identified as an area where congestion could potentially become an issue during construction (Vandersypen, pers. comm., 2003).

Four contractor yards would be used on a temporary basis to support construction activities.

- The Sumas Pipe Storage Yard is a 13.2-acre site approximately 0.5 mile west of Sumas. The site has been partially graded for development and has been previously used for storage and staging during pipeline construction projects. The yard is adjacent to a railway siding used for shipping across the United States-Canada border and would be accessible from SR 9.
- The Portal Road Yard is a 22.6-acre site approximately 4 miles southeast of Blaine. The site is located between I-5 and Portal Road.
- The Swift Yard is an 18.7-acre site currently used as a railway siding and is adjacent to Portal Road approximately 3 miles southeast of Blaine.
- The Ferndale Yard is about 0.25 mile north of Ferndale. The 14.1-acre site has a railway siding along its western edge and is accessible to I-5 via an adjacent exit ramp and bridge.

Approximately 80 workers would be transported to the job site and back again at the end of the day on crew buses. The remaining individuals (approximately 20 pickups) would be moving from site to site on the construction right-of-way using local roads and highways on a daily basis. It is expected that these vehicles would make two to three daily trips from the Portal Way Staging Area to various areas along the construction project as construction occurs at multiple locations.

Approximately three to four pipe string trucks would be making two roundtrips per day from the Portal Way site to the construction right-of-way for the duration of project construction. It is also expected that water trucks and dump trucks would make as many as six trips per day (on average) to deliver materials and equipment to the right-of-way. Once a vehicle leaves the Portal Way yard, its exact route would vary depending on the current location of construction activity. Whatcom County has not identified any restrictions on the access roads that would affect project construction (Williams Gas Pipeline Company 2003).

Overall, the number and frequency of construction vehicle trips would be low on any particular roadway at any one time because construction would move sequentially along the project right-of-way. Trips by vehicles that would visit the right-of-way on a regular basis (e.g., pickup trucks, crew bus) would be distributed along the length of the pipeline route as the pipe string is installed and construction activity progresses to a different part of the right-of-way.

Cumulative Impacts

The only other area of concern identified by the County Traffic Engineer is the potential cumulative impact of construction traffic from simultaneous construction of the BP Cherry Point Cogeneration Project (at the BP Refinery) and GSX pipeline construction in the same area (Vandersypen, pers. comm., 2003). GSX-US construction activities that could overlap with construction at the BP site includes the HDD site, the pipeline between the HDD site and the Cherry Point compressor, the Cherry Point compressor itself, the section of pipeline east of the

compressor station along Grandview Road, and assembly of the HDD pipe string at the Gulf Road launch site.

The Applicant for BP Cherry Point has estimated the number of vehicle round trips each month during construction, assuming mobilization in February 2004 through December 2005. The average weekday construction trips are estimated to be 650. The average weekday peak construction trips are estimated to be 1,200 (Duke/Fluor Daniel 2001). This is equivalent to approximately 10,300 monthly round trips during the peak construction period.

While specific routings are not known at this time, truck traffic would most likely use the principal arterials or roadways from material sources to the cogeneration facility. Potential impacts could affect roadway and/or intersection operations thereby worsening levels-of-service (LOSs) or increasing queue lengths or delays. The traffic analysis for the BP Cherry Point project estimates that the SR 548/Portal Way intersection would operate at LOS F during the PM peak hour during peak construction conditions without any mitigation.

Operation

GSX-US estimates it would hire up to two additional permanent employees to satisfy the day-to-day operation requirements of the completed pipeline project. These employees would be hired and trained at the Sumas District work location and would spend the majority of their time at the Cherry Point compressor station. Because only minimal traffic would be associated with operation and maintenance of the completed pipeline, no significant operational traffic impacts are expected.

GSX-Canada

Construction

At peak construction, the GSX-Canada project would employ approximately 240 workers. Four to five buses would bring workers to the site and then return to pick up workers. This would result in 8 to 10 one-way traffic movements per day from the marshalling area to the project site. In addition, up to 400 one-way movements would occur to and from the marshalling area. Supervisors and selected other workers who need their vehicle during the day may travel to the site in vehicles such as light trucks. It is anticipated that a maximum of 20% of the workforce would use independent vehicles. This would result in a maximum of 80 one-way vehicle trips per day. Buses and vehicles coming to the project site would park on the right-of-way.

The contractor would use from three to six stringing trucks, with each truck carrying from 10 to 12 40-foot or 42-foot joints of NPS16 pipe. This would result in from 200 to 254 one-way trips to and from the right-of-way to the stockpile site. These trips would be distributed over the entire construction period.

Operation

No additional analysis required.

Terasen Gas Alternative

No traffic impact analyses are available for the Terasen Gas Alternative.

No Action Alternative

No traffic impact analyses are available for the NorskeCanada proposal.

Mitigation Measures

Proposed Action

Construction

GSX-US would prepare and implement a Construction Transportation Management Plan (CTMP). Components of the CTMP would include, but not be limited to, the following:

- Construction employees would share rides or be bused to the construction right-of-way. To reduce overall traffic, construction workers would leave personal vehicles at the contractor's yard and share rides or ride buses to the construction right-of-way.
- Construction employees would commute during off-peak hours. Because pipeline construction work is generally scheduled to take advantage of all daylight hours, workers would commute to and from the site in off-peak hours.
- Construction equipment would remain onsite during construction of the pipeline. In addition, most equipment would be located on the pipeline right-of-way and would not affect traffic on local roads after its initial delivery to the construction site.
- GSX-US would require construction workers to use contractor yards as the primary parking area for their personal vehicles. Workers would be transported from contractor yards by buses provided by the contractor. Transporting workers by bus would reduce traffic and eliminate the need for personal vehicles to be parked along the right-of-way or along roadsides near the right-of-way.
- When a pipeline crossing requires an open cut of a road, GSX-US would attempt to maintain at least one lane of traffic with detours around construction, plating over the open portion of the trench, or other suitable methods. Traffic control measures such as flaggers, signs, lights, and barriers would be used during construction to ensure safety and to minimize traffic congestion.
- GSX-US would apply for all necessary permits to cross and/or use roads.
- To minimize disruption by construction traffic, GSX-US will use contractor yards to ensure adequate roadway access to pipeline construction areas. Construction equipment would most likely be transported to the area via I-5 and delivered to the construction right-of-way on low-boy semi-trucks. Some equipment would be stored at the Portal Way site. This equipment would be dropped off in one location and moved in a linear direction along the

construction right-of-way. The amount of equipment moving from site to site would be minimal.

- Construction hours would be strictly adhered to as follows:
  - Marine: 24-hour-a-day operations.
  - All HDDs, including Cherry Point: from 10 to 12 daylight hours of operation to 24-hour-a-day operations during some phases.
  - Onshore construction: an average of 10 to 12 daylight hours of operation with a small number of cases in which this would be exceeded.
- GSX-US and its contractors would comply with local road weight limits and restrictions and would keep roads free of mud and other debris that may be deposited by construction equipment. Track-driven equipment would cross roads on tires or equipment pads to minimize road damage. Any roadways damaged by construction activities would be repaired.

Operation

No mitigation measures required.

Terasen Gas Alternative

No traffic impact analyses are available for the Terasen Gas Alternative.

No Action Alternative

No traffic impact analyses are available for the NorskeCanada proposal.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts have been identified.